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63-4-2

CIVIL DEFENSE REVISITED

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June 1963

P-2751

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The United States experienced a surge of interest in civil defense which culminated, in 1961, in action. Part of the activity became a responsibility of the Department of Defense, and funds were increased; and there were flurries of action at other levels, from State to individual. But now the proponents and opponents have fought the program to deadlock, and interest in the topic has waned. Deadlock and apathy mean that desirable paths may be closed by the passage of time; hence this attempt again to delineate the issues, and to note desirable paths.

Perhaps all that can be said about civil defense has been said. But the topic is complex, with endless ramifications and gaps; moreover the relevant is masked at times by the irrelevant, and the light of wisdom by the heat of controversy, all to the detriment of understanding. However, the fundamentals are easy to understand, provided one is not swamped by emotional and nonsense reactions—such as that civil defense is too unpleasant, too pernicious, or too immoral to contemplate.

The central fact is that civil defense—unfamiliar, unpleasant, expensive, and complex—is necessary. The reason is simple: conventional military activities alone cannot safeguard the citizenry during some forms of war.

Although civil defense has been a necessity for many peoples, the present requirement is novel to native-born Americans. Some

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are affronted by the need. Some take refuge by turning their backs on it—and take virtue from the act. Some believe the need and the dangers from which it stems would be removed if we threw ourselves on the mercy of the enemy. Most, I believe, are appalled by the difficulties and confused by the variety of views, but are courageous enough to face their world. This essay is addressed to them.

We are accustomed to some forms of civil defense; notably, to those needed within our peaceful society to bound our neighbor's potentialities for evil—for he may even seek our lives. Of course he is usually held in check by his peaceful disposition, but we fortify this by sanctions. We designate as peace officers many able-bodied males, and we have a procedure to call one quickly. We lock doors before we sleep, we leave lights burning, and some have guns. Thus, we have defenses. They are not perfect, as eight thousand homicides annually bear witness, but few would abandon them.

The specific novelty now is that a suitably armed man, in our midst or at the most distant path on earth, may decide to kill many of us and do so within an hour. If he attacks Washington, say, people may be killed in Baltimore, or in Boston. He may kill among our now-unborn descendants. And he may kill more with one weapon than we have lost in all wars heretofore. It is not necessary to determine that he is bellicose—he may just be confused—to decide that his capability must not be ignored. Of course, the distant man's good behavior is fortified by terrible sanctions in the hands of our military, and we also have military defense. But these far-from-perfect measures do not sufficiently bound his potentialities for evil. We also need civil defense.

The form of the threat may change, but the need seems to be permanent. For no matter what improvements are achieved in human relations, our species will live in the presence of the atom from now on. It is difficult to envision an age in which the war atom

will not exist; the police forces of a world government will probably need it to insure the peace—if for no reason other than because it will be available to dissident groups. The peace atom will also present hazards: explosives and reactors are not foolproof, and people can run amuck. Of course the total hazard in some future age may be less than it is today; but that it will get worse before it gets better is an easy prognosis. Thus for us—and probably for those who follow us—there is literally no alternative to civil defense.

There is room for argument on the question, How much of our resources is it wise to devote to civil defense? But we do not need an answer to this difficult question immediately, because it is certainly wise to have some; so we should provide some. Many believe there is more room for argument than I indicate. Some use dialectics I do not understand—such as that a concern to have civil defense shows that one is callous of human life, or that one is eager for war—so I cannot share perceptions with them. Others think it is good to be utterly vulnerable, in the belief that war will not occur if it is obviously suicidal; but war is not rational, necessarily. Perhaps most are caught on the barrier, Is civil defense actually feasible now? It is.

This is not to gainsay that the offense in some forms of war is ascendant over the defense, and perhaps destined to be absolute. The day may come when weapon effects can obliterate life on earth regardless of defense, by poisoning the atmosphere and land for generations, or by physically sundering the earth, or by other means. Technical difficulties may preclude such developments; but it would be silly to depend on them, so we must ultimately achieve political control of these developments. However, it takes time to change human institutions. In the meantime it is sensible to modify our habitat a little, even though we do not know how to cope with the worst that the future may hold.

To understand that civil defense is feasible now, it is important to keep in mind several facts. War comes in many forms. It may be confined geographically, or to an element (such as the

seas), or to specific weapons. The degrees of violence are legion. Our country may not be hit by an atomic weapon, or it may be hit by one, or by ten thousand. The weapons may be small or large, and they may be used discriminately or indiscriminately. The populace may not be involved, or it may be involved as a primary target, or incidentally to an attack on military targets. War may occur with no warning, or it may be as predictable as the occurrence of the Fourth of July. Its magnitude may be affected by the destruction of weapons by weapons, on both sides. The form in which it comes may be novel, but the old forms will still occur, as witness Korea and South Vietnam.

It is clear that the view that war—even thermonuclear war—is necessarily suicidal neglects too much: the lack of desire to kill everyone, the many forms that war may take, the present limitations of offense capability, the mutual destruction of weapons during war, and the improvements available to the defense—including civil defense. It is also clear that civil defense is not needed for some wars, and that it is not a counter to some ultimate Armageddon. However, it is a superior means to limit the agony of many wars and accidents.

Defense against nuclear weapons is feasible in the sense that it is relatively easy—as such things go—to make it likely that most of those endangered by a bomb would survive, and it is difficult to guarantee that all would survive. This stems from the differences among the several effects of nuclear weapons—blast, heat, and radioactivity—and where they occur. Let us review these briefly for hydrogen bombs with yields from 1 to 20 megatons TNT equivalent—kinds now popular in the arsenals.

Near a point of detonation—an unknown point until it occurs—all effects are strong and sudden, and hence difficult to counter. In particular, this is the region where blast is intense. Overpressures greater than 5 pounds per square inch occur at distances

up to, say, 5 miles—actually 3 to 8 miles, depending on the yield—which will destroy most conventional structures. To protect everyone in regions of intense blast would require that we all live where geology makes it possible to go deep underground, and that we devote most of our resources for a generation to the task. Thus total protection for everyone is not feasible. Of course the concept of total protection for everyone is extreme, because only a few can encounter total danger; we will not all be blasted to kingdom come. However, bunkers can be built that will withstand direct hits from the largest weapons we know, so the vital functions of the Nation need not lack protection.

A region of intense heat lies outside the region of intense blast. It extends for an additional 15 miles, say—actually for an additional 6 to 22 miles, depending on the yield. It is a region of thermal and nuclear burns, where defense is complicated by the destruction, by fire and blast, of residence-type structures. It is less difficult to counter these effects than those in the first region, because they are less violent and a little less sudden. But defense here is a major problem nonetheless: it requires a first-rate system of facilities, organization, and warning. It appears to be feasible, physically and economically, to have such a system; but we have no program to design, develop, and procure it.

Downwind of a point of detonation, beyond the regions subjected to blast, heat, and prompt nuclear radiations, lies a long region that may be affected by fallout of radioactive material from the mushroom cloud. The effect is large if the fireball touches the ground. The material is moved by the wind; so, for example, if the effective wind is 15 miles per hour, fallout will reach a point 150 miles downwind in about 10 hours. A fine dust may be observed; if so, it will be the only visible sign of danger. If the radiation is

strong, those dosed with it become just as dead as if they had been consumed in the fireball. The difference is that their deaths are unnecessary, because it is feasible to protect them. The better procedures cost about one hundred dollars per person, whereas expedients are available for a few dollars.

This is not the time or place to suggest specifics, but I shall mention, as an example of what can be done, a shelter studied by the Naval Radiological Defense Laboratory. The basic structure is one ordinarily used as an ammunition storage magazine: a flexible steel arch buried under several feet of earth. One such shelter has been tested for blast, another for resistance to fire and to radiation. Habitation tests have been made with groups of 100 for two weeks. This shelter attenuates radiation by a factor of at least 1000, it withstands overpressures of at least 25 pounds per square inch, and it is impervious to fire—even in the rare place where a firestorm is possible. It is a superior fallout shelter and it is suitable for use almost everywhere; the immediate vicinity of the fireball is an exception. The mass-production cost has been estimated to be as low as fifty dollars per person, so an estimate of one hundred dollars provides some leeway.

That is the gist of the topic. Why don't we have civil defense? There are enough reasons; the difficulty is to sort out those from which the others flow.

Let us recall the approach of the United States Government, which was to provide us with some protection soon. The easy part is to find the structures in America which will attenuate radiation by a factor of 100 or more; mark them, so that people will recognize them as havens; stock them with the necessities of life; and monitor radiation to warn people of danger. One third of all Americans may thus be protected from fallout for a few dollars per person protected. The proportion can be increased—perhaps doubled—by a limited program to improve existing structures and

prospective structures; for instance the effective capacity of shelters can be increased by adding ventilating equipment. We need more and better protection, but this is clearly a bargain beginning. The program was begun in 1961. In 1962 the Congress almost stopped funding it.

It is easier to fault the program than to get a better one, because it contains a flaw that is likely to appear, and to be more important, in other programs: namely, the organization. The Office of Civil Defense, a civilian staff agency in the Department of Defense, is responsible for preattack planning. The Office of Emergency Planning, a civilian staff agency in the Executive Office of the President, is responsible for postattack planning. Nine additional departments and agencies have been directed by the President to provide various goods and services; for instance, the Department of Agriculture is to provide food, and the Department of Health, Education, and Welfare is to provide medical supplies. These various plans, goods, and services are made available to the State governments. The fifty State governments, if they decide to do so, make them available to local governments. The thousands of local governments, if they decide to do so, form organizations to create and manage the actual civil defense system. The ingredients of the system are the plans and the various goods and services provided by the Federal Government; the management, manpower, money, and some shelter space provided by local governments; and the balance of the shelter space, and funds to improve it, provided by private parties—if they decide to do so.

The adequacy of such loose arrangements depends on the task and on the performance required. It is probably adequate for a task such as the distribution of polio vaccine, but not for one such as the task of the Strategic Air Command. The requirement in civil defense is doubtless for something between these extremes, but nearer

the latter. The present program does not appear to be a permanent step to meet that requirement. Rather, it appears to be an expedient that has temporary value, and less value than one might anticipate. This is intended as a statement of fact, not as a complaint. After all, as to the temporary value of the effort, we redesign and rebuild most systems many times over a hundred-year period—e.g., schools, roads, telephones, weapons, etc.—so this system is not exceptional; and as to its low performance, the problem we seek to solve is not easy. It is as if we were to walk up a hill while preparing to climb a mountain. But while the walk up the hill has its uses, we may have to walk down again before assaulting the mountain.

It is no footless complaint to say that we do not have a plan for climbing the mountain. This certainly appears to be a task for professionals, but it is a curious fact that our professional fighting men do not talk about civil defense or clamor for the job. It seems that they cling to their traditional missions and viewpoints, and passive defense—"Maginot-Line philosophy"—is contrary to our military tradition. The Chairman of the Joint Chiefs of Staff did support civil defense at a hearing of the House Committee on Government Operations. It is not clear whether he went as a volunteer or as an aide of the Secretary of Defense, but his impeccably correct statement was a far cry from that of a Billy Mitchell fighting for a new necessity of war. Yet it may be impossible for the military to carry out its mission of defending America without civil defense, and impossible to achieve a substantial civil defense capability without a professional organization.

The task of protecting the United States from enemy action is a fundamental duty of the Federal Government; in particular a duty of the Department of Defense. Hence a natural civil defense system

is one based on shelters owned and operated by a uniformed command of the Department of Defense.

Such a system has not been widely considered, perhaps because we began with a false premise: namely, that civil defense is properly a responsibility of individuals, but, since many individuals do not have adequate resources, local governments should enter the area. The argument continues easily to State governments and, finally, to the Federal Government. It is difficult to introduce the military establishment at this stage, because governments are notoriously sensitive to issues of authority; they are not keen that the military participate unless in subservient roles. But such roles vitiate the peculiar qualities of the military that are apt to mitigate disasters: cohesive organization and clear authority.

On the other hand, if one were to begin with the notion that the task was primarily the responsibility of the military establishment, the involvement of civil governments could be held to a minimum, and clashes of authority would doubtless be minimal. The obvious requirements for collaboration include the acquisition of sites for civil defense activities, and plans for the assimilation of certain local organizations, such as police and fire departments, during an emergency. There would be no need for civil governments—and the public—to become expert in civil defense, and no need for the military to intrude continually on the life of communities during peace.

In the event of nuclear disaster, the society will need a disaster-proof organization of men, machines, special facilities, and procedures—instantly. It may have warning, even a substantial period, in which useful things can be done, but it cannot improvise a useful system at the last minute.